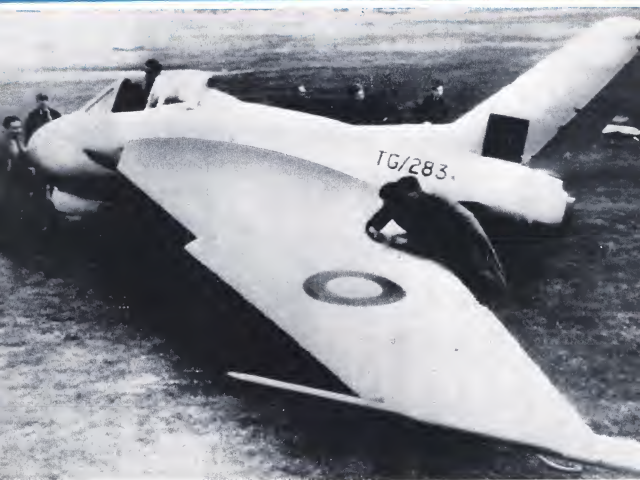


Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

JUNE 10, 1946



British Jet Wing: An example of British concentration on jet engines, as well as advanced aerodynamic structures, is jet-propelled flying wing, DH Swallow, being readied for its test flight. This is a radiophoto by Acme Newspictures. For other British jet developments, see Page 12.

CAB Defines Unscheduled Service; Finds Violations

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Airline Preferred Stocks in Significant Shuffles

Fairchild calls for redemption of convertible issue; Piper offers new stock.....Page 27

Scores of New Airlines Plan to Start Before Aug. 1

Indications are that many new non-sched outfits intend to beat deadline.....Page 31

Southeast Feeders Expansion Urged for 9-State Net

CAB examiners recommend certification for new services by established operators.....Page 34



Uses

VICKERS
Hydraulic Equipment

On its LOCKHEED CONSTELLATIONS

Illustrated below are various types of Vickers hydraulic units used on Lockheed Constellations now being flown by TWA.

Vickers Variable Volume Piston Type Pumps automatically deliver volume of fluid required by main hydraulic system... never in an excess of fluid pumped. An integral pressure control automatically and continuously maintains the desired pressure independent of varying volume demand and of engine speed. Volumetric efficiency and overall efficiency are very high.

Vickers Hydraulic Motors are used for wing flap operation because of their high starting and running

torque. They can be stopped accurately to position... no clutch or brake are needed. The very low inertia of their moving parts permits instantaneous starting and stopping. They have exceptionally high horsepower/weight ratio.

Vickers Relief Valve, Unloading Valve, and Accumulator are used in the auxiliary flight control booster system. Relief Valve has a pilot operated piston resulting in smoother operation and greater accuracy. Accumulator has a very high volume/weight ratio. Write for Bulletin 45-41 for additional information.

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Engineers and Builders of Oil Hydraulic Equipment Since 1921

TYPE



VICKERS
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VARIABLE VOLUME
PISTON TYPE PUMP



VICKERS
ACCUMULATOR



VARIABLE VOLUME
PISTON TYPE PUMP



VICKERS
MOTOR PUMP

THE AVIATION NEWS

Washington Observer



ATOMIC POWER FOR AIRCRAFT—Although details have been top-secret, specific preparations are underway in Washington toward a comprehensive long-term study of the possibilities of using atomic power in peacetime aircraft. No predictions are being made on possibility of success, or the time likely to be needed, but a survey is beginning which will probably result in reaching some final planning at speeds for perhaps six months.

BUSSELL ON TACTICS—Major Gen. Clayton I. Buswell, former Commanding General of the 11th Air Force in India, has been appointed U. S. Military Attache for Air in London. His responsibilities at the old Air Corps Tactical School recall the General's inventive genius during the early '30s when he maintained that it was no longer possible for fighters to shoot down bombers and advocated a device that enabled fighters to herd into both linked with chains of bombers hoping to fool their propellers. Gen. Buswell was also Chief of Air Force and General Staff Intelligence during the war.

STEAMSHIPS TO FIGHT ON—At least one steamship company denied rumors in the Latin American case intends to take the decision to the court in an effort to have the proceeding reheard and the opinion reversed. The Sea-Air Committee will soon add new members who will aid in rounding out a program to



"SHIPS MUST BEHOLD WISDOM"

convince Congress on explicit expansion of policy on the right of U. S. shipping lines to participate in overseas air operations. Steamship significant in the Hawaiian and Pacific case are extremely pessimistic over their prospects. Steamship lines have adopted a drawing with the label "Steamships Must Grow Wings" for their campaign.

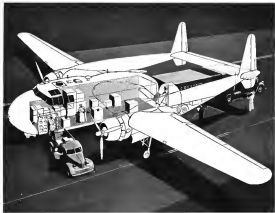
AIRLINE CHIEFS TO TESTIFY—A strong move was about last week to postpone hearings on Sen. McGowan's revised "All American Flag Line" bill, scheduled to start June 17. An impressive list of influential opposition witnesses have already requested to appear at the hearings, including Joseph Casey,

Chairman, Airline Committee for U. S. Air Policy, and also top officials of domestic airlines: Croft Hunter of Northwest, John McDonough of Eastern, C. B. Bell of Eastern, Jack P. Smith and Ralph D. Jones of American, Jack P. Smith and Ralph D. Jones of American, Jack P. Smith and Ralph D. Jones of American, Jack P. Smith and Ralph D. Jones of American.

RESEARCH CUT—Despite the fact the importance of research is stressed by many Congressmen, the fiscal 1947 \$597,000 budget for the Office of Scientific Research & Development, which played the key role in wartime research, is a startling contrast to OASD's 1946 Appropriation of \$3,000,000. Meanwhile, there appears little likelihood of Congress forcing legislation setting up a permanent national research foundation, proposed by OASD as its own successor. In view of a logjam of business, Senate action on the Magnuson-Ridgway Bill, establishing a national research foundation, appears improbable, and House action even more improbable.

AAP AGAINST TRANSPORT "INTEGRATION"—Army Air Forces has injected fuel for the first time into the current issue of integration of various modes of transportation, being vigorously pushed by the railroad-dominated Transportation Association of America. Testifying before the Military Subcommittee, AAP Gen. Carl Spaatz told Senators that national defense interests demand not only freedom of air transport from control by other forms of transportation media, but separate regulation as well. "Intermixing of air transport with rail or maritime transport would hinder in fullest development, essential to the national defense," Spaatz asserted, listing specifically as the proposal of Chief of Naval Operations for Air, Adm. Chester Nimitz, for the creation of a board which would write out an overall all-national transport policy, dealing with surface as well as air transport.

NORSTAD APPOINTMENT DEFENSIVE—Industry and AAP, while gratified by appointment of Maj. Gen. Lauris Norstad, Assistant Chief of Air Staff for Plans, or Assistant Chief of Army General Staff for Operations, are also greatly disturbed. They are a preliminary move by the War Department to "merge" the AAP into the land army as a defensive tactic against creation of a separate air force. Norstad has been copying the bill for the AAP on modifications, but such this plan now nearly dead, there is bound to be a demand for establishment of an independent air arm. If Army big-wigs could convince Norstad that AAP's future would be brighter if it remained as its present status, move for a separate air force would suffer.



The INSIDE Story of the Packet

Speed creates profits for air cargo operators—speed on the ground as well as speed in the air.

Fairchild engineers, planning the Packet to carry cargoes that no other transport can handle—made loading and storing easy. They spaced the fuselage. They gave it straight sides, a level floor and a horizontal ceiling. They split the fuselage into two doors which open the full width of the hold. They placed another door forward for access to up-front space.

The result is an air freight transport that is easier to load than a bus.

Cargo can be walked directly from truck or loading platform straight into the hold—no right angle

turns—to its allotted place on the floor. Straight-sided cargoes snug up to the Packet's straight-sided walls like building blocks. Cases can be loaded down quickly to the maximum in-down fittings placed every 20 inches on a floor designed for heavy loads.

Here, then, are facilities for speed on the ground, vital factor in the distribution of perishables, a major element in the establishment of profitable air cargo operations.

That is the inside story of the Packet, Fairchild engineers have again achieved "the touch of tomorrow" in a plane built expressly for the dawning age of "flying freight."

Fairchild Aircraft

Division of Fairchild Engine & Airplane Corporation, Hempstead, Maryland

WEEKEND • NOVEMBER 22

Aviation News
McGraw-Hill Publishing Co., Inc.

June 19, 1946

CAB Defines Unscheduled Service; Finds Two Carriers in Violation

Trans-Marine and Page Airways ordered to desist, four decisions widen scope of Federal authority over all lines.

The Civil Aeronautics Board promulgated that week a new definition of non-scheduled air carrier operations and thereby made mandatory an immediate change in the character of service that can be offered by the non-scheduled lines. At the same time, it postponed adoption of constant regulations until the industry can be reformed.

In one of four separate actions the Board did make one change, however, in the existing order (Section 202 (2) under which non-scheduled operations are exempt from economic regulation. The amendment requires immediate registration of non-scheduled carriers and, together with the previously issued Part 42 of the Civil Air Regulations (Aviation News, May 12), effective Aug. 1, brings all non-scheduled operators under stricter Federal surveillance.

By a narrowing of definitions, bolstered by adverse decisions against Page Airways and Trans-Marine Airways, the Board set forth a philosophy that will leave under economic regulation many carriers hitherto operating as non-scheduled lines and can be expected to have some out of business.

Non-scheduled service, CAB decided, has a far more restrictive meaning than merely the absence of published time-tables.

"The irregularity contemplated for exemptions," the Board's opinion declares, "is that which does not, either directly or indirectly, lead the public to believe that between given points a reasonably certain number of flights per day or per week, or flights at approximately certain times or on certain days, may be anticipated with a reasonable degree of assurance."

The Board found it "evident that through a general custom or practice a fairly consistent course of conduct may evolve, as well as through a pre-determined arrange-

ment, and it need only be uniform to the point of suggesting a steadily constant service in order to be precluded from the scope of the exemption order. The irregularity suggested can only be reflected by rare and infrequent flights, at best, the same two planes, and even be of such rarity and infrequency as would preclude any expectation of a uniform pattern or normal consistency of operation."

The opinion also said it is not known to non-scheduled carriers of cargo. Recognizing that its interpretation of the term "non-scheduled" would preclude the operation of a cargo service between major cities "with sufficient regularity to attract shippers," the Board commented: "However, we are not concerned

that the regulation should preclude otherwise."

In effect, selecting it desired to protect certificated carriers pending hearings on their applications for new carriers, the Board said there are "few instances in the air transportation pattern where service is not now available by certificated carriers between major cities. The regulation," it said, "enhances the transportation of property without any limitations. Their opportunities to experiment in the development of cargo services are contrasted with air carriers, have been severely restricted during the war years, and it is only recently that equipment in any quantity has become available to them."

Citing an executive memorandum that the "non-scheduled" limitation be removed from carriers giving service between points where reasonably direct air service is unavailable, CAB pointed to its decision in the case of the carriers in which local air services had been authorized.

(Turn to page 11)

Create Two Classes of Carriers

Two classes of non-scheduled air carriers are provided for under the amendment of Section 202 (2) of CAB's economic regulations now being circulated for industry comment. The amended regulation would create:

- Class A Non-scheduled Air Carriers to include operators utilizing aircraft with a total gross weight exceeding 10,000 lb. or any single aircraft with a gross weight exceeding 5,000 lb.
- Class B Non-scheduled Air Carriers to include all other non-scheduled operators.

The amendment would require that these Class A carriers file tariffs with the Board stating rates and terms charged, keeping the tariffs available for public inspection, charged only the rates specified in the tariffs, and making no changes except as coordinate with the provisions of Section 401(c) of the Civil Aeronautics Act.

Class A carriers would continue to be exempted from the require-

ments of holding certificates of public convenience and necessity as provided in Section 401 of the Act. The Class B carriers would be required from all of the provisions of Title IV of the Act, except the certificate, emergency, and operating with labor legislation, and observing the Labor Practices act.

The proposed amended regulation would also eliminate the exemption which heretofore has extended to non-scheduled carriers in foreign and overseas air transportation. Only exceptions contemplated is in the case of operations between Canada, U. S. and Canada, Mexico, and Alaska. This would mean that service to other foreign and overseas points could heretofore be conducted only with CAB certificates of public convenience and necessity.

Written comment on the proposed amendment should be submitted to CAB in writing before July 15.

Major Airlines Gird for Battle With Non-Scheds Over Cargo

American planes carriers with new air freight division headed by Wooten, Intertitle tariffs and joint cargo corporation proposed to meet competition.

Wires were plentiful last week that the scheduled airlines are preparing for a full-scale competition with non-scheduled operators over the nation's air freight business, as late as a month ago (May 13) in Aviation News.

Initial step was inauguration of a separate contract air freight service by American Airlines, which some observers saw as a last operation which may determine the course of other operators. American has filed for a non-scheduled operating certificate under Part 42 of the Civil Air Regulations.

Western Air Lines also is considering establishment of a similar separate division, and other major operators are contemplating the same move.

Study Joint Plan.—At the same time, a committee of Air Cargo, Inc., was studying the feasibility of a joint corporation, underwritten by the scheduled airlines, to operate non-scheduled cargo service on a uniform basis. The committee was about ready to report to the airlines as stockholders in Air Cargo.

Although some observers discounted an immediate industry-wide project in the future, there was little doubt that the scheduled carriers are paying close attention to air freight possibilities. Some of those areas in the scheduled field, where the operators may be expected to show increasing stress on their established ability as common carriers.

An interest agreement covering operations at consolidated air freight tariffs is being circulated among the carriers, and probably will be submitted to CAB for approval about Sept. 1. Under it, scheduled carriers will seek to eliminate unnecessary variances in air freight rates, regulations, practices and services.

Will Speed Costs.—The arrangement will spread the burden of cost of publication of tariffs and should result in a generally uniform rate, although each line will determine what rates, rates and regulations will apply over its own system. Making of interline agreements will be facilitated.

Virtually all lines carrying or planning to carry air freight—about 19 to 22—were expected in particular, with the exception of Northwest Airlines, which received a setback last week in an arrangement with Railway Express Agency (Aviation News, May 8). Although the tariff filed by REA to become effective June 1 was on the books, CAB informed both the agency (in that case the carrier) and the airline (whose steps it is to meet), that the Board could not approve the agreement under which the tariff was submitted.

Main reason given was that the agreement was outside the existing common carrier order which REA is an express contract. CAB, citing REA's present predominant position, suggested that the agency might wish to file application for a certificate of public convenience and necessity, both as to express and freight.

Both parties asked the Board for a hearing on the agreement, and CAB undoubtedly will grant it. The Board has indicated that it would request that REA and NWA be allowed to operate under the agreement during pendency of the proceeding, but here CAB approval was being demanded in permit such an interim agreement would imply a change of stand on the agreement. The contract contains a provision that its validity is subject to Board approval of the agreement.

Interline Rules.—One recent sign of the tendency toward uniform tariffs lies in the filing by TWA of a revised single-class freight tariff, to become effective June 15, in which interline rates and conditions with Thrift Airways, Continental Air Lines, Western Air Lines, and Western's Island division. Western announced simultaneously that it had filed a system-wide air freight, one class tariff between all points on its system and that of its subsidiary, Island Air Lines. This also will be effective June 21.

These somewhat developments, however, are only preliminary to American's impending development in the non-scheduled field. The carrier was reported about ready to add this type of service to its sys-



Air Freight Committee. What may be a step in defense against encroachment of non-scheduled air freight operations developed when TWA filed a single class tariff with CAB in which joint rates are offered, effective June 21, with Brant, Continental, and Western. Company 22 states, the agreement is based on an air freight rate of 24¢, center per ton mile. Each of the lines will accept air freight for handling and delivery to points served by either of the others. On a "when space available" basis, the cooperative rate between Los Angeles and New York will be 213.62 per 100 lb. The comparable air freight rate, without space availability features, is 233.61. Photographed in conference at Los Angeles when the rate combination was announced there, left to right: George D. Nash, director, director of tariffs and schedules for Continental Air Lines; M. E. Sullivan, Western Air Lines manager of tariffs and contracts; and W. W. P. P. Kansas City, TWA's director of tariffs.

tem under direction of James A. Wooten, whose resignation July 1 as American's cargo sales manager was announced recently.

Wooten has been drumming up business as the west coast for the proposed new enterprise, according to airline cargo men. His former job will be taken over by T. H. Miller, an director of cargo sales. Miller has been director of sales training.

In addition to Wooten, who will be general manager, officers of American's new contract air freight division will be William H. Hooten, director of operations; Doron Spess, director of maintenance; E. C. Noble, western manager; Ross

Ames, chief pilot, and Larry Durkin, director of public relations.

Service was set to start today, June 10, with air C-54's now held by American. No rates are being quoted, and terms will be negotiated on all contracts. Headquarters of the division will be at Rosemead Field, in Joseph, Mo., just leased by the division and chosen because of its central location with respect to markets.

Information on the West Coast was that the division had applied to CAA for an operating certificate under Part 42 of the Civil Air Regulations, and also was filing with CAA under grandfather provisions for certification as a non-scheduled air carrier as of Aug. 1. (In Washington laws and records are being prepared by CAA for applications for operating certificates under Part 42.)

American is alone in the venture, and one company official broke that other major airlines will not follow until immediately following a show which on developments. Yet other airline officials are said to feel in some instances that their regular operating staff, imbued with established operating methods, might be unable to do an aggressive job on contract freight sales, and a separate contract air freight division is the logical answer.

Enthusiasm for a joint corporation to operate a non-scheduled cargo service over irregular routes, however, appears softened, due to several factors.

One is the belief in spreading among the scheduled operators that a majority of the non-scheduled companies that have sprung up since the war will follow their own business opportunities within the coming year.

There is a strong inclination by the scheduled carriers to see their own tariff schedules moved up before they swing into direct competition with the non-scheduled lines.

Many intervened in the situation have been inclined to wait decision by CAB, which has been due for some time, on a continuing recommendation of non-scheduled carriers. They feel that the imposition of tight regulations comparable to those levied upon scheduled companies will be as effective as a "brake" and less messy, in getting off all but the heaviest of the non-scheduled operators.

The scheduled carriers believe that through their decorated status as common carriers they have a strong selling point with which to offset non-scheduled competition.

The committee of Air Cargo, Inc.,

which has been studying the matter with interest, consist of Paul D. Butler of Eastern, Leigh C. Fowler of Delta, and Lewis C. Serrell, head of ATA's Economic Research Department. Charles A. Wheatstone, who resigned recently as American's vice-president in charge of sales to form his own firm of aviation consultants, also was a member, but the committee's report is so near completion it is doubtful the vacancy will be filled.

Spokesmen for AAF Plead for Air Board

Spens, Symington call for permanent National Advisory Council in Mitchell Bill hearing.

Under Secretary of War for Air, W. Stuart Symington, and Gen. Carl Spaatz, chief, Army Air Forces, called for creation of a permanent National Advisory Council to formulate air policies for commercial and military aviation, in testimony before the Mitchell Subcommittee last week.

Executive officers of the proposed NAC would be a chairman, appointed by the President, and a secretary, appointed by the chairman. The Council would be composed of a six-member government wing board, and a ten-member advisory board. Members of the working board would be representatives

of the State, War, Navy, Commerce, and Post Office Departments, and the Civil Aeronautics Board. The advisory board would be made up of representatives of education, labor, private flying, research (National Advisory Commission for Aeronautics), civil aviation, aircraft manufacturing, and four members at large. At the suggestion of Sen. Hiram Caperton (R., Ind.), Spaatz endorsed inclusion of a representative of the Federal Communications Commission on the working board.

Navy Opposite.—The NAC proposal, first advanced by former Secretary of War Henry Stimson, was later before the Air Commerce Committee, Spaatz said, but failed because of the opposition of one ACC member.

Symington and Spaatz voiced two fundamental objections to the present National Air Policy Board proposed in the Mitchell bill, which would write out a national air policy in the course of three months, and then disband.

First, its duties to include representatives of government departments concerned with aviation in its membership. Second, its temporary nature.

"The government agencies interested in air power and private airports on various aspects of air power must work together as a team to formulate air policy," Symington declared. "Uncoordinated



SHOOTING STAR ENGINE CHANGE:

One of the features of the AAF's recent "Project Comet" in which 25 Shooting Star jets across the continent and returned to their California base, was this demonstration of changing a jet engine in one of the aircraft. Spare engines and maintenance crews were carried in Fairchild C-42 Panches. The change of jet units was made in a matter of minutes.

PRIVATE FLYING

Crosswind Landing Gear Experiments Fostered by CAA

Fairchild and Goodyear developing castored wheels under government contract; all highplane builders eligible for participation in project.

By BLAINE STUBBLEFIELD

Two airplane companies are experimenting with novel undercarriage wheels for crosswind landing, under contract with CAA which hopes to concentrate use of more additional controls soon.

Fairchild is developing castoring wheels for a T-47 trainer, and Goodyear is constructing a towing rig for testing experimental aircraft wheels for adaptation to a Piper Cub. A contract with Bellanca is under consideration.

Builders Eligible—CAA invited all highplane builders to take part in the program and they are still eligible for contracts. Few showed interest, because of the heavy current demand for highplanes of almost any kind.

CAA wanted a million dollars for this project but was turned down by the Budget Bureau. Congress provided \$130,000. About \$6,000 was allotted to Fairchild, and over \$30,000 to Goodyear. Nonetheless less than \$50,000 of the total \$150,000 will have been allocated even if a deal is made with Bellanca. So far CAA has not received non-aeronautical engineering contracts to participate.

An additional \$200,000, asked for in the Commerce Department's fiscal 1947 (beginning July 1) appropriation, was struck out by the House Appropriations Committee, but Sen. Pat McCarran (Nevada) is trying to have the sum replaced by Senate Appropriations, which has

help hearings but has not yet reported on the bill.

Expenditure Small—CAA is convinced that these expenditures are small in view of the probability that successful crosswind landing would permit conversion of air strips to fields, cut support costs by many millions, and reduce the occupancy of valuable land.

Plans for experimental work on several gear for large transport planes are under consideration, depending on the amount of money available, and upon the interest of component firms. Two or three of them have expressed approval of the effort but have not found time and facilities to take part in it. Success of crosswind transport landing would permit location of terminals nearer population centers.

Basic Experiment—British experiments with swivel wheels (castoring tail wheels) on an American P-51, on the Ampelap C-47, and the Miles Monarch, were successful, but the wheels were landed not the runway by the pilot, through a steering gear. It is considered that a satisfactory solution will be satisfactory, requiring no alteration from the pilot except the usual crosswind into the wind.

The Fairchild contract calls for design and installation of brackets on the fixed PP-14H, which could straighten down from the runway by the landing brake. The tail equipment could be installed on the many PP-14H now in service, and would be suitable for use on other planes with wing-mounted landing struts.

Goodyear is building a dummy vehicle, with struts simulating those of the Piper Cub, extending from the fuselage. It will be tested by auto or truck, equipped with various experimental servos until a suitable one is found on which to base the final design. The servos, in this case, will be under an enlarged wheel drum-like. If Bellanca accepts a contract, he will be asked to try out a several design containing both steering and free castoring.

Bellanca in Problem—A belated hydraulic device which would permit manual steering of the wheels, give them sufficient leeway for castoring, and serve as a backup against skidding, is being sought with further investigation.

One of the main problems in present castoring design effort is to make a case balance, by steering the rudders, which will give enough stability in present steering, which will at the same time permit quick alignment of the wheels with the

slipstream's direction of action at the time of touchdown.

Tests thus far (including those made by Piper several months ago on his own aircraft) are reported not satisfactory. However, CAA and company engineers believe they know the trouble, and the remedy.

The airplanes being used by Fairchild and by Goodyear are furnished by CAA, which will pay a Contractor of Bellanca takes the job. When the projects are worked out satisfactorily, CAA officials hope to send the planes on loan, demonstrating crosswind landings to manufacturers.

New British Trainer Is Built by Percival

A new British-built three-place trainer has been announced by the Percival company, makers of the well known Percival Proctor four-place personal plane, which the new trainer resembles.

Designated by the number T-2143, the plane is all-metal, except fabric covering on control surfaces. Like the Proctor it is a single-engine low-wing cabin monoplane with fixed landing gear.

Choice of Two Engines—It will use either of two alternate engines: the deHavilland Gipsy 21 which provides 220 hp. at takeoff, or the Gipsy Grange 47, which is supercharged, and provides 245 hp. at takeoff. A constant speed propeller is used with either engine.

The instructor and one pupil sit side-by-side at dual controls while a second pupil sits behind them and listens in on the instruction, by telephone intercommunication. It is expected this will include the total number of flight instruction hours required for both pupils.

Dual controls are provided in the front seats, with a full set of instruments including those for blind flight, mounted on a shock-proof panel. A blind flying hood is supplied which is designed to be quickly folded and moved when not in use. The instructor's wheel brake lever has an over-ride control which can make the student's brake lever inoperative.

Access to the cockpit is through sliding enddoors. Large portions of the superstructure may be jettisoned in emergency to enable the three occupants to bail out simultaneously. A crash-proof pilot is part of the front seat.

Flaps Are Split—The wings, which built on to the sides of the fuselage,

Ten Commandments for Safe Flying

Distribution of 100,000 cards containing "10 Commandments for Safe Flying" is being made by Piper Aircraft Corp. through its dealers, to student and private pilots. The cards are being placed on an "entrance" packet of CAA training. It's a new part of the Piper safety first campaign, which also includes presentation of safe flying awards to club pilots who have the best safety records in local areas. The commandments:

1. Thou shalt not become airborne without checking thy fuel supply. It only takes a few seconds to get up and it may save you a blood landing.
2. Thou shalt not taxi with contaminants. Stop, slowly and make a turn to clear the area in front of the nose. Know thy proper exit controls for taxiing in a crosswind.
3. Thou shalt never enter head into air traffic route. Keep a constant lookout for other aircraft. Follow the rules so that pilots of other planes will know what you are going to do.
4. Thou shalt not make false turns. This is particularly important when making go-around turns. Use clear with the power, not the rudder.
5. Thou shalt maintain thy

speed just the earth and make sure they don't be forced by increases in ground speed resulting from a downwind turn. Keep sufficient air speed.

6. Thou shalt not let thy confidence exceed thy ability. Don't attempt aerial maneuvers unless you have proper training and necessary instruments installed. Flying is a highly developed science. Don't guess.

7. Thou shalt make use of thy instructor. Talk to the instructor before a year found. Know when to use it. Remember it's easier to prevent an accident than to correct it after it has occurred.

8. Thou shalt not perform aerobics at low altitudes. Aerobics started near the ground may be complicated air fuel under the ground. There's safety in situation.

9. Thou shalt not allow indecision in thy judgment. Be certain! You can't afford to make errors of judgment. If you are "in a state of mind" on the last of famous last words.

10. Thou shalt know always the Check Pilot in the Piper Cub. It's better to be on an old pilot than a hot pilot.

have split flaps. In these sections from aircraft to aircraft. The landing gear uses a steel spring and hydraulic shock absorber. Basic wheels have wheel-hubs and tires in dual-wheeling and self-oversteering.

Engine cooling includes two large radiators for easy accessibility. The engine is mounted in rubber anti-vibration blocks, and is fitted with an electric starter. Two sets of estimated performance figures are given. With 150 hp engine Gross weight, 1,715 lbs.,

maximum speed (sea level) 155 mph; cruising speed (3,500 ft.) 143 mph; stalling speed straight wings, with flaps, 56.5 mph; rate of climb, 500 ft./min., ceiling 13,800 ft.; takeoff to clear 50 ft. obstacle, 285 yds.; range, 485 miles. With 205 hp supercharged engine: Gross weight 2,016 lbs.; maximum speed (3,500 ft.) 171 mph; cruising speed, 152 mph; 13 mph; stalling speed, 60 mph; rate of climb, 1,050 ft./min.; ceiling 18,000 ft.; range (at 125 mph, at 3,500 ft.) 577 miles.



New British Trainer: Plans for the instructor and pupil side-by-side and second pupil behind them are provided in this new British-built Percival trainer. With alternate engine, the plane will cruise at 163 mph at 3,500 ft., or at 154 mph at 17,200 ft.



BOTO-HANGAR:

A car-sized, six-place steel-structure hangar, with an electrically-operated turntable floor has been developed by Boto-Hangar company, Central Airport, Los Angeles. Eight of the hangars are being built in a test installation at a Los Angeles airport. Advantages include: Saving in hangar space and taxi time, single set of doors, one-man operation to move the planes. Each plane is housed in a triangle 40 ft. wide at the front, 22 ft. wide at the back. The hangar has an 8 ft. overall diameter. The aircraft operates the turntable with push-button like an electric elevator, affecting the wall which he wishes to turn around to the door. A warning signal sounds, automatically, before the turntable begins to turn.

Funk Plans to Make 500 Bcs During Year

Funk Aircraft Co., of Culpeville, Va., plans to turn out 500 of its new 83 hp Continental engine-powered Model F2B, known as the Bee, this year. Production of the plane is now nearing the two-day point, and is expected to stabilize at three-and-a-half as soon as material shortages iron out.

The Bee which is expected to sell for approximately \$3600, is a two-place side-by-side high-wing monoplane, basically the same plane as the older 75 hp Lycoming-powered Funk which it replaces.

It is designed as a deluxe type plane offering the private flyer such standard equipment as complete soundproofing and engine mufflers, starter, generator, alternator, instrument panel, dual light, dual wheel controls, baggage, slatted radiator, aluminum oil pressure gauge, air pump, oil temperature gauge, compass, battery, aviation lights, hydraulic and spring landing gear, eight-hour steerable and full-retracting tubular wheel with hydraulic shock-absorber. In the landing brakes, two all-metal doors with adjustable windows and dual jacks. Two-stage propeller, wiper, wheel pants, main heater, wheel upholstery, radio mount and its attachment, and is fitted with a Motorola A-600 audio receiver which may be detached from the plane, and used as an ordinary portable radio.

Engine is of steel-tube con-



Funk Bee: Now powered with an 83 hp Continental engine, the new Funk Bee, known as the Funk Aircraft Co., Culpeville, Va., as Model F2B, is its most popular. The same airplane as the 75 hp Lycoming Funk, it is presently manufactured. Designed as a deluxe two-place plane to sell at approximately \$3,600, the Bee will cruise at 100 mph, and land at 37 mph.

struction with wood framing and fabric covering. Wings are of NACA 4412 section, made of solid wood spar and brass tie rods covered. Tail section is steel-tube, fabric covered, and wire-braced. The Funk Bee has unusual stability, being designed to be virtually wing-dive and stall-proof without sacrifice of maneuverability. The 83 hp powerplant makes it possible to takeoff in 480 ft. or less with full load at sea level. Cruise performance figures include Top speed (sea-level) 113 mph, cruising speed, 100 mph, landing speed, 37 mph, rate of climb 800 ft/min range, 258 miles with 14 hour reserve.

Wingspan is 35 ft.; length 30 ft. 1 in.; and height 6 ft. 1 in. Fuel capacity is 28 gals. with cruising consumption of 4 1/2 gals/hr.

Kansas Flying Farmers Band at Hutchinson

Four hundred and twenty-seven Kansas farmers last week flew into Hutchinson, Kan., municipal airport in approximately 250 planes to support the Kansas Flying Farmers Club, and affiliate with the rapidly growing National Flying Farmers Association.

Allred Ward, Dr. Johnson, Kani, member and owner of three planes, was elected president of the club. Ward operates 30,000 acres in Texas, Colorado and Kansas and uses his planes, including a converted basic trainer, in his marketing activities.

Other officers: Gus Beasley, Oklawaha, Fla., vice-president, and Lloyd Chesser, Liberal, Kansas, Club Secretary, C. C. Truitt, Hutchinson, Okla., Treasurer, Clay Cowles, and Bill Wagner, Norton, directors. Truitt, now 60, married in 1933, has three sons.

Gene McKitt, Alva, Okla., president of the National Flying Farmers Association, told the group, that "when we build 500 small air fields in Kansas, the Hutchinson airport support will have many other planes as it usually every day, not just when the Flying Farmers hold a convention. Then you'll have places for the planes to come from."

Renton Concrete Airstrip Is Up for Surplus Sale

A three-way scramble for the Renton Renton concrete airstrip is expected to issue to a bid this month when War Assets Corp. makes over the B-29 military site for surplus property sale.

As a prelude, the City of Renton recently invited members of the National Aeronautics Association, and Aircraft Owners and Pilots As-

sociation to fix their planes on lease to the B-29 strip so proof that it is suitable for private flying—an operation as a City of Renton facility.

Officials of nearby King County Airport (Seattle's Boeing Field) are equally anxious to acquire the Renton strip to handle overflow of their field, which recently logged 1110 landings and takeoffs during a single day.

Equally anxious to acquire title to the Renton strip is the Renton Port Commission, which will operate the new Seattle-Tacoma Airport at Bow Lake. The contention of the Port Commission will be that the Renton runway will be needed to a replacement to Bow Lake to qualify for federal aid of personal aircraft from the latter program when it is opened for commercial transport operations.

NATA Complicates Operator's List of Maintenance Steps

National Aviation Trades Association Washington headquarters in compiling a list of operator maintenance who are equipped to do maintenance and overhaul of aircraft. The list will be made available to any applicant seeking for a recommended repair and maintenance service.

The compilation was started following a request of William Davis, New York Region Representative of Airmen, CAA, for the names of operators who were prepared to do maintenance work for CAA planes.

"I have noted that the aviation operators are adequately prepared to assume the responsibility of maintaining the CAA aircraft," Davis was quoted as writing, and asked for names of NACA operators in his region capable and prepared to run 100 hr. periodic inspections on two SR-71 CAA planes. An NATA reply advised Davis that at least six district approved stations in Region 1, had been approved by CAA for this type of work, and listed names of operators.

Lower Insurance Rates Are Forecast at Meeting

Lower insurance rates and smaller bank financing for private flying was forecast at a tri-weekly meeting of airport managers, aircraft dealers, bankers and insurance men at Flint, Mich. Representatives of all three groups, however, agreed that the specialized need of the aircraft man-

Briefing For Private Flying

PLANTS LIGHTHOUSE MAKERS—One of the most striking comments of the light aircraft manufacturers which has appeared in print recently was the unqualified claim by Peter Edman written from Washington, May 31. He wrote "Studies reveal that most of the 1946 private planes are little better than 1941 models. They cost too much, have too little utility value, are uncomfortable, there is not enough advance in safety. Passengers made the claim have to short it each other to be heard, and a two-hour pay ride is about all most private flyers can take. Most small planes require too big a field for takeoff and landing. What's more, the suburbs have most potential private plane owners live don't want a private flying field in the neighborhood because of the noise. In short, the private plane is vital, but more of a nuisance than a necessity, and not nearly enough of a sporting proposition."

THE BEST OF THE STORY—To complete the picture, the acquainted Mr. Edman should have added these facts: That most lightplane manufacturers are well aware of the deficiencies of the dressed-up 1941 models which predominate among today's new lightplanes. That most of the buyers, too, are buying them with open eyes. That both sides are looking forward to the day when these models may be relieved from production on proof of the real positive designs which should emerge from Mr. Edman's complaints. That designers for quality production methods may eventually be expected to cut down numbers per plane, with a resultant levying of price cost to reach a broader market.

FAIRCRAFT CORP.—The New York Times' John Stuart last week cited the Faircraft Corp., recently organized at Danville, N. Y., and John Stuart, designer of the Lockheed Little Dipper (Aviation News, March 11), as examples of small groups of engineers expected to produce planes designed for simplified mass production, along with Republic Aviation Corp. Stuart points the production possibilities of die-formed fuselage shells, rigid skin wings, welded, dual-balsa and other new sandwich materials.

COMPLETING FLIGHT PLANS—Inquiry at CAA's Washington office last week disclosed that, thus far, no private flyers have been issued the new \$25 fees for filing to complete flight plans, and thereby cutting needless expenditure of time and use of planes in rescue searches. It may become there haven't been cause pilots who have neglected to report their whereabouts. The failure of the certain pilot to notify the base has led to the safe return of the safe subject of a second plane, which after several and went coast pilots who had filed plans and failed to follow through. "Berthel, private pilots, the Army and Navy, the Coast Guard, state police and Ryan" organizations have pressed in the searches," Joseph Wernick, South Region CAA representative reported. "Their diligent is understandable when they have spent time and money only to find that the pilot has never safely and settled down in a hotel when told aircraft would never find him, or gone on about his business, heedily ignoring the loss and feathers he had caused." If these failures to report continue, CAA has little choice but to enforce penalties or drop the flight plan service. Chances are, the first will be needed soon.

WHERE DO YOU STAND?—Children Aviation Association in asking its membership to poll all political candidates for action on their specific attitude on aviation affecting aviation in the field, and in the future. It is apparent that aviation groups throughout the country could have a much greater voice in legislative matters affecting them, if a similar practice was adopted at other parts of the country as well.

LOERING TALK—Opinions favored by Grover C. Loering, NACA consultant as a result of his tour of lightplane companies will be the basis for his talk before the annual District lightplane meeting of the Institute of the Aeronautical Sciences, June 14. The two-day meeting will include a paper on noise reduction in lightplanes, by two NACA engineers, Theodore Thuders, head physicist, and Arthur A. Reber, electrical engineer, of the Langley laboratory. A symposium on "Increasing Utility of Personal Aircraft" and studies on simplified design will be his technical highlights of the meeting.

—Alexander McNairly



SEABEE COMES ASHORE:

No. 4 of the first Republic-built four-engine amphibians is shown at its home in the waters of Long Island Sound. Republic Aviation Corp. is starting mass production on the aircraft of the Seabee, at Farmingdale, L. I. The company still intends to sell the plane for "under \$4,900," and to make 3,000 of them this year.

chaser must be met before planes can be sold and serviced as readily as cars.

P. H. Coward, Laport head, told the gathering from Geneva, Laport and Shawmore claim that his institution has had a good record of liquidating its aircraft loans usually on a one-third down payment basis. Clayton Tallman, Fiat pilot and insurance man, while admitting that present fall coverage is "excellent for the average firm," pointed out that risk firms have already made 20 to 25 percent discounts.

Rider will drive, he added, when more planes for more safe loans. Reliance of finance companies to enter the aviation field will be overcome the group agreed.

Commonwealth Sells Engine, Plane Units

The Ken-Royce engine and Candler airplane divisions of Commonwealth Aircraft, Inc., with all of their patents, equipment and tools have been acquired by Reed Piggan, veteran Ft. Worth, Texas, sponsor of an instrument training school and a service shop for large planes.

All of the equipment and machinery is being moved from Commonwealth's Kenna Ctr. Mo., plant to Fort Worth, where Piggan has acquired temporary quarters for limited production of the engine and parts for the plane. Negotiations are under way for perma-



SKYRANGER OVER IDLEWILD:

An unusual flight photo of the 23 hp. Commonwealth Skyranger, about the two-place lightplane, over New York's Area, unexplained. Idlewild Airport. The Skyranger is widely adaptable because of many data, speeds at 150 mph., loads at 40 mph., has 120 mph. top speed, and a range of 300 miles. (Harris & Rebus photo)

nent quarters in which to resume production of the Candler and the Ken-Royce engines.

Key personnel retained by Piggan in the trade include M. A. Skay, who was service manager of the Kenna City plant, as manager of engine production, and Don Appleby, an aircraft engineering section, as director of airplane operations. All remaining engineering and designing personnel was also retained, according to Piggan.

Now on the drawing boards are new engineering improvements for the new models. Piggan said the new Candler will have a triple landing gear.

Commonwealth acquired the Ken-Royce and Candler divisions when they bought out Reunova Aircraft Co. during the war. Production was continued in gliders and certain aircraft parts.

As war's end, Commonwealth brought out the two-place Skyranger, which it will continue to manufacture along with the three-place Pioneer airplane.

Airport Managers Oppose Landing Fee

An industry that private flyers have made substantial progress in their protest at the imposition of landing fees is seen in the reaction of delegates at the recent annual convention in Chicago of the American Association of Airport Executives.

While the subject of landing fees for private planes was not on the program, observers present at the sessions pulled from comment that the majority of the members—chiefly managers of publicly-owned airports—oppose such charges.

Although nearly every aspect of airport operation and management was given an airing, it was noted that little discussion revolved around the subject of safety.



Wings of Empire

Britain's unborn apostle for world trade finds new expression

in the operations of British Overseas Airways Corporation. Making the Empire and the nation of the world will closer, B.O.A.C. will carry the Union Jack over the familiar shipping lanes on the neck wings of Lockheed Constellation powered by Wright Cyclones.



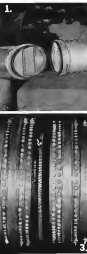
WRIGHT Aircraft Engines

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FRENCH PUSHER:

A two-place flying wing airplane, with vertical fin at the wing tip, resembling the pre-war American Westwind, is one of the most interesting French postwar lightplane developments. The Bivouac 58-7380 was originally an experimental research prototype but showed such excellent maneuverability it has been put in production for the private flyer. The all-metal craft has a 240 hp. Hispano pusher engine, and fixed tricycle landing gear. It is credited with top speed of 142.4 mph., cruising speed of 126.2, stall speed of 55.4, and range of 2185 miles. The plane is a product of the South-East plant of the Societe Nationale de Construction Aeronautique.



How to zip an airplane's windpipe

Transports of air are sucked in, compressed, and re-circulated out behind four large propellers engines of the new XF-12, military prototype of the Republic "Rainbow" transport. All that air runs through long, winding ducts—and these "windpipes" used to be problem children.

Ducts had to be made in sections. Sections had to have tight joints because air goes through under heavy pressure. For the joints must be easily disconnected and resealed to permit frequent removal and replacement of duct sections. And that was a pain.

A new type of B. F. Goodrich Zipper replaced the joints. Not the ordinary kind, but one that's made with a pressure-

seamed rubber seal that opens and closes with the zipper. A zipper arrangement of overlapping rubber lips provides an effective seal for pressure up to the structural strength of the zipper itself.

These Pressure Sealing Zippers make duct sealing an amazingly simple operation as shown in the 1-2-3 sequence above. Note that the sealed lips go all the way around, to give 360° effectiveness. This feature works equally

well on battery shaped ducts or other odd shapes where clamps will not work. The zipper is a space-saver, too. It requires no cumbersome seal construction and occupies no more space than an ordinary zipper.

Today there are many inquiries and increasing experimental applications for B. F. Goodrich Pressure Sealing Zippers. Get more complete facts by writing to The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.

B.F. Goodrich
FIRST IN RUBBER

First Sweepback Wing Data Reveals Supersonic Flight Needs

Many new problems of structure, control, and stability created by radical design, initial data from wind tunnel tests reveal.

Introduction of double sweepback to aircraft wings, looked so a solution to trans-sonic flight, has at the same time created numerous problems of structure, stability, and control which, in many cases, threaten to defeat engineers' attempts to penetrate the barrier to supersonic flight.

High loading speeds, elimination of the rubber and ailerons, and considerably greater demands on pilot skill seem certain at this stage of investigation.

Warfare research into these problems, just released from security classification, is discussed by Harry A. Sooke, research engineer of the National Advisory Committee for Aeronautics, in a recent paper before the SAE. Results of sweepback research at Langley and Ames Aeronautical Laboratories, which have been eagerly awaited by aircraft industry engineers now at work on trans-sonic designs, reveal:

- Large sweepback is required for trans-sonic flight, 65° being needed to increase the nose and 72½° required for speeds above about 2600 mph. Sweepback less than 38° has little effect and about 45° is considered the maximum for effective results.
- Structural problems will make short, stubby wings a necessity, with 4½" the maximum sweepback possible for rectangular wings and 65° the highest practicable for pointed wings.

Flap effectiveness decreases with increased sweepback and is virtually useless on designs of 65° or more. Nose flaps, dropped leading edges, and slots were investigated, with the last showing the most promise on wings with less than 60° sweep.

High loading speeds appear a certainty, with a pressure on pilot skill. Sweepback adversely affects loading angle to the extent that a 65° sweepback design with a 100 mph loading speed (the minimum believed attainable) displayed a sinking speed of 75 feet per second. The same loading speed with 45° sweep is accompanied by a sinking speed of about 50 feet per second, roughly twice the drop rate safely handled by an experienced pilot. Such data appear to be proved approaches with resulting increased loading speeds (150 mph and up). This will make necessary a provision for aileron lift at the end of the flight if a safe landing is to be guaranteed. Landings will be on the rear wheels first, due to the higher maximum lift angle of the sweptwing design.

Aileron effectiveness falls rapidly with increased sweepback. Swept wings exhibit a considerably higher rolling moment, indicating a loss of maneuverability for high-speed fighter craft. Sweepback will demand greater directional stability, with a 45° sweep requiring at least 40% more

in area than a comparable straight-wing design.

Rudders and elevators appear doomed in the trans-sonic region, with the rudder first to disappear. Results indicate that if the rudder is retained for aid in ground taxiing, it should be locked for flight. Elevator will contribute little to longitudinal stability, leading to the conclusion that the flying wing (see May 4, Aviation News) will be the most practical and effective solution to stability problems in the trans-sonic speed region.

Most stable design for supersonic flight appears to be the triangular wing, with apex forward, which maintains its stability throughout the range of speed and flight angles predicted.

Douglas Halts Work On Reconversion Job

With deliveries of the DC-4's to airlines scheduled to begin next month, Douglas Aircraft Company has halted reconversion of C-47's and C-54's at its Santa Monica plant in order to concentrate on the large and newer transports.

Moreover, in the last four months of this year, the company reached a new high in deliveries of new two- and four-engine aircraft, including 46 including conversions. Douglas delivered 59 transports, valued at \$11,900,000, during that period. Nearly two-thirds of the new aircraft were DC-4's. Deliveries were made to eight domestic airlines, 31 of the planes being converted service cargo planes.

All-new equipment went to airlines of 18 foreign nations: Ireland, France, Australia, Denmark. The



Douglas Deliveries: Illustrating the scope of Douglas Aircraft Co.'s recent deliveries is this shot of the shop at Santa Monica Municipal Airport adjacent to

the Douglas plant. In the first four months of this year, the company delivered planes to eight domestic airlines and ten foreign countries.

Netherlands, Netherlands East Indies, Belgium, Sweden, South Africa, and Switzerland.

At its peak, the conversion program at Santa Monica was turning out 19 C-47s a month.

Design Shock Mounts For Personal Planes

Use same principle employed on military units to absorb 90% of vibrations.

A series of lightweight, inexpensive shock mounts utilizing the Vibroshock principle has been designed for personal planes by Robinson Aviation Inc., Teterboro, N.J. The principle—used on more than 300,000 military units—gives shock-free freedom of movement designed to absorb more than 90% of all vibration by taking up shock in both horizontal and vertical planes.

The personal plane type mounts employ a stainless steel coil mount-spring, four ball springs working against the mount housing to kill low frequency oscillations and maintain constant air critical frequencies, three way damping members to provide a cushioned stop for heavy shock loads, and a load-carrying central stud tapped for standard engine service.

No Redesigning.—Since the mount base has standard attachment holes the Vibroshock unit can be installed without re-designing or re-working present aircraft. C. E. Holmquist, president of the company, has, for



CZECH LIGHT ENGINE

The Czechoslovakian power plant industry is returning to the export field with this light aircraft engine of 52 hp, which is expected to give U.S. manufacturers of similar output stiff competition in Europe. Made by the Walter Mlynes company, m-h-co, overhauled air-cooled plane, it has occupied its rated 150-hr. tests. Before the war, this company's engines were built under license in Yugoslavia, Poland, Spain, Italy, and France. (The Aeroplane photo)

example, mounted light instruments of his own Patrol 24 on two of the new units—one on either side combined with a stabilizer at the top. The stabilizer is mounted on four struts—one at each lower corner, with a stabilizer on top.

Democratization flights made for an Aviation News correspondent showed vibration absorption well

above the 90%-design standard through the full range of engine speeds and in two runs over a rough field.

Present production of the units is in three sections: the first rated from loads of 9.5 lb. to 4 lb., the second from 4 to 12 lb., and the third from 10 to 45 lb.

Used by Airlines.—The latest section units are being used in the airline field for noise installations where service tests which are still under way and have shown that takes will last up to nine months—possibly more since the units are still outlasting—compared with some failures as low as every 10 days without the mounts.

Mr. Robinson also tells Aviation News that the larger units are to be used to shock-mount cabin superheating and venting equipment on a new airliner now under development and that his engineers are working with designers of another impending airliner to determine the feasibility of using Vibroshock units to mount the entire passenger cabin within the fuselage as a means of reducing noise as well as vibration.

Bendix Expands

Bendix West Coast sales and service organization in the West of Bendix Aviation Corp. has expanded its operations into two buildings. One for aviation sales, and engineering personnel, is at 7351 Melrose Ave., Hollywood; the other housing the service department, is at 6404 Lankershim Blvd., North Hollywood.



A. B. BOWMAN, veteran maintenance chief American Airlines before, and for ATC at Northwest Airlines during the war, now General Manager of the new Republic Jacobs, is making an extraordinary operating record with his "Preceptor maintenance."



Burning daylight in Kentucky!

With only two converted Cessna warplanes powered by vintage Jacobs engines...

...Republic Jacobs gives Kentucky state air service, Indianapolis with regularly scheduled weekly flights, logs 600 miles daily and \$750 miles per week! And will shortly add Sunday operation with the same equipment!

How do they do it?

"Preceptor maintenance"... the system developed by Republic Jacobs H. B. Ingalls while in charge of ATC maintenance on Northwest lines during the war. Republic Jacobs places an intensive emphasis on their type at Bowling Green, the company's home, where a veteran AAF crew checks and overhauls every portion of plane and equipment each night on a rotating

schedule. The ships are kept in service without the loss of flying time.

The Jacobs R-755-A engines fit into this light operation program the way feet on a chair... maintain schedules at only 1800 rpm, 34% capacity... use as little as 14 gallons of fuel and only 3 cent oil per hour.

The compact size and unique accessory drive with permit quick, complete inspection of engine, wiring, control linkages, and facilitate engine change, reduce line maintenance details. For dependable, low cost performance with maximum maintenance, Republic Jacobs R-755-A is one of the most satisfactory engines he has ever known... believes that his current 650-hour period between majors could be extended without

wicket war or safety infringement.

Today the new R-755A is an even better Jacobs... because of intensive research, improved fuels, quantity production experience... weighs no more, but delivers 33% more power—300 hp at 2000 rpm—is more sparing of fuel and oil... is the most efficient non-supercharged radial in its power class available today... Newly far-dubious new, too! Republic Jacobs... Jacobs Aircraft Engine Company, Division of Republic Industries, Inc.



FRENCH SKY GIANT

Photographed while nearing completion at Marignane, France, is this six-engine flying boat, the first of two in the world. The prototype was finished during the war. Approved by the German occupation authori-

ties. No building was large enough to house it, so the plane is being built in the open. Construction is by the French-Swiss factory of the nationalized French aircraft industry. (Inter-Africa photo)



JACOBS

Division of Republic Industries, Inc.

• Pottstown, Pa.

Seabee goes 100%

Republic's new Seabee provides "Landings Unlimited" to set new records for versatility in personal flying. It is significant that Republic engineers in their program to produce "sturdy, comfortable, confidence-inspiring airplanes" specify Auto-Lite electrical equipment exclusively. Here is further proof of the unfailing performance which has made the name Auto-Lite internationally famous for dependability in automotive, aviation and marine use.

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FINANCIAL

Airline Preferred Stocks Shuffled in Significant Trend

Fairchild calls for redemption of convertible issue also just on market; Piper offers new 4½ percent with conversion feature.

Preferred stocks recently submitted to a number of significant shifts highlighting the place of preferred stocks in financing the aircraft industry.

Fairchild Engine & Airplane Corp. has called for redemption of its \$5.95 cumulative convertible preferred stock on June 24, 1946. That represents about the shortest duration of any major preferred stock issue.

Last May Fairchild sold 90,000 shares of the stock at \$50 per share to the public, receiving \$4.50 per share after underwriting commissions. The stock is convertible into 14 shares of common for each share of preferred. It is this conversion feature which gave the preferred considerable attraction and it is now being sold at a premium.

Peak at \$115—Earlier this year, a high of \$115 per share was reached. The current market is around \$84. The redemption price is \$55.50 per share plus accrued dividends at \$1.34, bringing the total to \$56.84.

It is obviously to the stockholder's benefit to convert the preferred into the common. With the latter selling around \$6.25 per share, the preferred has an actual value of around \$6.75 per share. Substantial conversions have already taken place. As of May 21, there were only 36,974 shares of the preferred outstanding out of the original 90,000 shares issued.

The investment bankers who have arranged to purchase any preferred at \$6 per share are taking very little risk under present market conditions. These bankers, headed by Smith, Barney & Co., who originally sold the issue, have advanced their current offer to "avoid conversions and prevent possible redemption money needed."

In any event, it is unlikely that the company will be required to pay any cash for the preferred redemptions but is merely forcing conversion at a favorable time.

Piper Markets Issue—Piper Aircraft Corp. recently marketed a new 4½ percent convertible preferred stock issue. A total of 150,000 shares at \$10.75 per share were sold. The proceeds to the company were \$1,612.50 per share. Attraction is provided in the conversion feature but is of little value at the present time. Convertible on the basis of four-fifths common for each share of preferred, the common will have to sell much higher than its current market price of around \$15 per share to give any lift to the preferred.

Piper sold a preferred stock issue in March, 1938 which turned out very well for the purchasers. A total of 21,000 shares of this convertible preferred were sold at \$10 per share. This issue was called on February 28, 1946 at \$15 per share. However, convertible at the rate of 10 shares of common for each share of preferred, and with the common then selling around \$15 per share, a total of about \$150 could have been realized for the share of the old preferred. Only 1,450 shares of this preferred remained as of Sept. 30, 1946.

Glebe Stock Issue—Another light-plane preferred stock, Glebe Aircraft, has not done very well since it was marketed last March. Originally sold at \$10 per share this stock is now quoted around \$8. A total of 100,000 shares were issued and carries a 5½ percent cumulative dividend rate. The stock is convertible into common at the rate of one and one-eighth shares for each share of preferred. The common is currently quoted around \$9 per share.

Another contrast is afforded by the preferred stock of Aeromax Aircraft Corp. This company has an issue of 15,000 shares of a convertible preferred. Originally sold at \$10 per share, this stock has now doubled in price primarily because of its conversion feature. The preferred is convertible into common

at \$7.50 per share. The junior equity is now selling around \$14.50 per share.

There are a few isolated cases in the aircraft manufacturing industry where non-convertible preferreds have been used with considerable success. An outstanding example is that of Thompson Products, Inc. This company first sold an issue of 45,000 shares of 5 percent cumulative preferred at \$100 per share in November, 1943. However, in order to take advantage of lower interest rates, the company called this issue at \$107 per share on May 9, 1945. In its stead and plus an additional 15,000 shares, making a total issue of 60,000 shares, a 4 percent cumulative preferred was issued. None of these issues contained a conversion feature. Undoubtedly the past earnings performance of the company provided the assurance of such sacrifices without additional "flavoring."

TWA Finances 13 New Conies with \$10,000,000

Purchase of an additional 13 Lockheed Constellation by TWA, bringing to 48 the number of these ships the company has in service or on order, will be financed with an additional \$10,000,000 loan from the Equitable Life Assurance Society.

The additional amount will be advanced before Dec. 31, 1946, in 134 payments. Senior Fund Debentures due Dec. 1, 1951, supplementary to the previous indentures covering an existing \$20,000,000 issue of Senior Fund debentures. The new issue will be retired by the annual payments starting Dec. 1, 1947 and brings TWA's total investment in Constellation to \$40,000,000.

The company's fleet, is based on a series of new machines, 141 planes, of which 48 are four-engine Constellations, DC-4's and Super Constellations, DC-6's and Super Constellations, and 16 twin-engine DC-3's.

Fairchild Redeems Shares

Fairchild Engine & Airplane Corp. has called for redemption of all outstanding shares of the company's \$5.58 cumulative preferred stock. Payment will be made June 24 at the rate of \$55.50 per share. This recent dividend of \$1.32 per share.

Each share of the stock is convertible, at option of holder, into 14 shares of the company's common stock. The price on the redemption

THE LABOR CRISIS —it's up to Congress

IT WAS realized for John L. Lewis to demonstrate conclusively that, under the sponsorship of the federal government, the power of organized labor has been built up to a point where it can be used to paralyze the economic life of the nation. Therefore, in the eternal interest of self-preservation, the first order of the day is to put down the power of organized labor at a point where irresponsible leaders no longer have the power to use it to riot down the country.

This will prove an exceedingly complicated job. The federal government, over a dozen years, has developed and buttressed the power of organized labor by many separate steps. They are interlarded in a pattern which cannot easily be unraveled.

Cutting down the power of organized labor to proper proportions will be an operation almost as delicate as brain surgery. To be successful it must respect no basic American political or economic right. It must leave intact the right of workers to organize and bargain collectively through representatives of their own choosing. It must leave intact the right to strike. But it must discontinue from the exercise of these rights opportunities for devastating abuse of the public welfare such as those demonstrated by Mr. Lewis. A next one is not the answer for this operation.

Because of the complexity and delicacy of the operation to be performed it would be helpful if it could be carried out in a tranquil atmosphere. The urgency of the problem is such, however, that no time can be lost in getting it at.

Guiding Principles

However, the dangers that haste or heat will lead to serious blindness can be largely eliminated if the process of bringing the power of organized labor back within safe and reasonable bounds is governed by principles to which all fair-minded people can fully subscribe.

The most important of these principles is that it is an abuse of public authority to confer special privileges to organized labor.

When in 1935 Congress passed the Wagner Labor Relations Act, one of the great buttresses of the power of organized labor, it was upon the explicit view that organized labor was weak and needed aid by the federal government if it were to

alone grow big and strong. In the policy

section of that act it was stated that "the inequality of bargaining power between employees who do not possess full freedom of association or actual liberty of contract, and employers who are organized in the corporate or other forms of ownership association substantially burdens and affects the flow of commerce . . ."

Regardless of whether or not that was a correct reflection of the situation in 1935, it leaves no relation to the situation today. Under the continuous sponsorship of the federal government, the power and bulk of organized labor has waxed until today it is preposterous to regard it as the weak entity in its bargaining with employers. If, after being continuously demonstrated since V-J Day, the proposition that the prohibition of organized power has swung too far over on the side of organized labor needed any final and convincing demonstration, John L. Lewis provided it.

Changes in the Law

Treason of the principle that organized labor is no longer a weakling, requiring a diet of special privileges, into specific legislative enactments is a detailed technical exposition beyond the scope of this statement. It is possible, however, to indicate some of the general lines it should follow. Here they are:

1. The duty to bargain collectively, now imposed upon employers by the Wagner Act, should also be imposed upon the leaders of organized labor who are now under no legal compulsion to bargain.

For well over a month Mr. Lewis made a complete mockery of the process of collective bargaining by refusing even to state his demands until the cool operators had approved "in principle" a plan for a more "health and welfare" fund which he forced. In the meantime the country was plunged into an ever deepening crisis.

2. Unions, as well as employers, should be made liable to suit for damages for breaking their collective bargaining agreements.

A degree of responsibility commensurate with their age and power requires that unions be liable, to the extent of union funds but not the funds of individual members, for carrying out their agreements. To have it otherwise is to hold that a collective bargaining agreement is, by defini-

tion, a phoney agreement so far as the union is concerned. Outlaw strikes are the fruit of this lip-slipped management.

3. Employers should be given more discretion, in recruiting employees who have gone on strike than is now permitted by the Wagner Act.

The Wagner Act largely eliminates the risks involved in striking because of the requirements it imposes upon employers to take workers back when they have decided to return to work. These requirements make it virtually impossible for the employer to replace workers even if they are engaged in the most unjustifiable of strikes. At the least workers who have smashed up property and stirred up violence in the course of a strike should have no rights under the Wagner Act. How much further the Wagner Act strait-jacket should be loosened at this point should be carefully explored, and measures encouraged by the Act should be removed.

4. The wedge which the National Labor Relations Board has driven into the orderly conduct of American industry by holding that foremen are covered by the Wagner Act should be eliminated.

The issue involved here is continuously mislabeled and confused as that of the right of foremen to organize. There is no question of the right of foremen to organize any kind of a legal organization they desire. That is their right as American citizens. The issue is whether or not the special privileges accorded by the Wagner Act, which in some circumstances has been so construed as even to prevent employers from talking with their workers, should be extended to foremen who, if American industry is to have a chance to do its duty effectively, must represent management with full loyalty and responsibility.

A member of John L. Lewis' United Mine Workers takes an oath which provides, in part, "that I will not reveal to any employer or boss the name of anyone a member of our union" and will "defend on all occasions and to the extent of my ability the members of our organization." Mr. Lewis insists that the coal operators contract to deal with foremen to be organized in a union where they will take this oath, and where their activities will be separated from the influence of employers by the barriers imposed by the Wagner Act. Such an arrangement undercuts entirely management of American industry.

5. The exemption of labor unions from the federal anti-trust laws, provided whose organized labor was pressured to be weak, should be modified to take account of its vastly increased strength, and

the use of this strength to destroy business enterprise and create monopoly.

As matters stand unions can run employers completely out of business by secondary boycotts and run fellow workers out of jobs in the process. An Ohio manufacturer, working with a government-certified C. I. O. union, is put out of business because A. F. of L. workers refuse to handle his products. Still the government, this time in the person of the United States Supreme Court, says that actions of this sort are above the law because Congress exempted unions from the federal anti-trust laws.

To eliminate one of the most devastating forms of restraint of trade, this exemption should be cut down forthwith by subjecting unions imposing secondary boycotts to the same penalties under the federal anti-trust laws as those to which employers doing the same thing are subjected. And the question of further narrowing the obsolete exemption of unions from the federal anti-trust laws should be fully explored.

6. The levying of special sales taxes for the exclusive benefit of unions should be prohibited by law.

As a matter of good government the right to levy consumption taxes should be reserved to the public authorities and used strictly for public purposes. As a matter of good economy, payments to workers or their organizations should be included in the payroll where they can be properly counted as part of the cost of production.

Equality Before the Law

When everything that can reasonably be accomplished by legislation has been accomplished there is no reason to believe that an ideal or even a nearly workable system of industrial relations will have been devised. Many of the mismanagements of such a system be deep in the hearts of men and far beyond the reach of legislation. There is no chance, however, of having such a system, or even a defensible system of democratic government until special privileges which tip the scales of power far on the side of organized labor are withdrawn and there is some measure of equality for employers and organized labor before the law. Though it is hard to believe it at the moment, the country may come to be grateful to John L. Lewis for doing that lesson here so ruthlessly.

John H. McGraw, Jr.

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Scores of New Airlines Planning To Start Before Aug. 1 Deadline

Reports from Aviation News correspondents indicate more non-scheduled passenger and cargo services are to be added to hundreds already flying; CAB to crack down next fall on all unlicensed companies.

An unprecedented number of new unlicensed air carriers will, however, begin flying from June and July to start various non-scheduled and scheduled passenger and commodity services before the August 1 deadline which has been set by the Civil Aeronautics Board. Any air carrier operating on that date who has filed for a certificate, will be permitted to continue until the CAB decides whether it meets safety and economic regulations, and takes favorable or unfavorable action on certifying the carrier.

Then CAB will need to act individually on each of the hundreds of such carriers, as one air authority will permit, but it probably will not be long. However, it is certain that CAB will take forced action against operators who continue in service after the Aug. 1 deadline, but who have not applied for non-scheduled certificates. The number of unlicensed carriers is expected to drop in virtually none, say Washington observers.

Meanwhile, in the past 12 days correspondence of Aviation News forwarded more reports of new and expanded services by unlicensed carriers from all over the country. Outstanding developments included:

► **North Dakota System.**—North Dakota authorities have issued a second certificate for scheduled interstate passenger operations to Hermes O'Brien Hot Springs and Little Rock, Arkansas. It is H. H. Stover, captain of Hot Springs Airport for 12 years, Earl Noker Van Lyell and Virgil East.

► **Globe Service.**—Globe Freight Airline, Inc., 715 Main St., Hartford, Conn., has begun cargo flights from Boston to New Orleans via Hartford, New York, Philadelphia, Baltimore, Richmond, Charlotte, Atlanta and Birmingham, using a C-47. Negotiations are underway with Douglas for two new C-47s for this route, and flights others have been established at all points served. A CAB application also scheduled cargo rights for routes from New England across the eastern U.S. to the Caribbean and Latin America.

► **North Dakota System.**—North Dakota authorities have issued a second certificate for scheduled interstate passenger operations to Hermes O'Brien Hot Springs and Little Rock, Arkansas. It is H. H. Stover, captain of Hot Springs Airport for 12 years, Earl Noker Van Lyell and Virgil East.

Protect Non-Scheds

A special approval from the government is needed for every schedule or a Canadian scheduled airline routes from a scheduled route, even though the new service is non-scheduled and irregular. This position is expected to prevent the two major airlines from usurping the area served by non-scheduled services.

The lines are permitted to include irregular operations only between stated points on a single scheduled route. The Canadian Air Transport Board in December just granted Canadian Pacific Air Lines and its subsidiary, Quebec Airways, almost special operations between several Quebec points.

Anderson and Harold W. Gann, a partnership, operating Mount-Park-Bremont, the latter a site for a Federal dam being built on part of the Missouri Valley Authority. Two Cessna 170s are available. The 230-mile Mount-Park-Bremont segment may be started with a round trip daily about July 15. Fargo-Bremont service will avoid airport improvements near the dam. Northern Airways, Inc., Grand Forks, the first scheduled intrastate carrier, flies a daily round trip on a regular route from Grand Forks to Devils Lake, Minn., Bemidji, Bemidji and Grand Forks, using a Cessna 170 and two Beech.

► **Pacific Wings for C-47s.**—Pacific Air Lines, 700 Hollywood Blvd., Los An-



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These pure bred Ayshire cattle are on their way to Mexicali, California the International Air Fre-20 hours around with 29 days which is by boat (Body Arnold photo)

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TRANSPORT—4



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